

Computer-Guided Automated Warehouse Start-Up Announced At South Charleston

Start-up of a large automated warehouse that streamlines drum delivery of chemicals to customers and distributors has been announced by Union Carbide Corporation.

Located at South Charleston, West Virginia, new warehouse is a distribution center for Union Carbide's Kanawha Valley chemical plants. Guided by computers, it keeps up to 2,400 stock items on hand, and makes each one readily available. Orders are filled swiftly and accurately for delivery to all parts of the country.

The warehouse is 60 feet high, 365 feet wide and 562 feet long. An automated system of conveyors and transfer machines speeds the flow of chemicals in 55 gallon drums. Approximately 2,000 drums a day go through the system: from receiving docks through input-consolidation lanes into storage racks soaring to the roof, and out of the racks through order and vehicle-load consolidation lanes onto shipping docks.

Modern Drum City

When drums are delivered to the warehouse, they are identified by a computer system and scheduled for a specific address, somewhere in the maze of racks. The drums travel along their predestined route until they meet the "packs," or drum replenisher, which glides up and down between the conveyor belt and the mouths of the racks. The packer, on orders from the computer, delivers each drum to its right rack, where gravity rolls it into place.

In other words, all drums have their own computer-selected homes in this marvelous, modern chemical drum city. How long they stay there depends on incoming orders, flashing toward the warehouse through a nationwide communications system. To fill these orders, the "picker,"

also guided by the computer, swings into action. It rolls up and down the racks to search out and select drums.

For Efficient Service

The warehouse features two parallel racks with the picking machine between the racks, and one packer operating on each outer side. Each rack is 57 feet high, 380 feet long and 40 feet deep, with gravity lanes 40 feet long. The lanes are arranged 15-high, in columns, with 107 columns along the length of the rack. Thus equipped, the warehouse has a potential of holding more than 60,000 drums. Once in position, a replenishing machine can put away drums at the rate of 12 per minute, and the picker can take out drums at the rate of 15 per minute.

The main objective for building the warehouse, according to Union Carbide, is to provide efficient service to customers and distributors, with emphasis on timely deliveries of truck load and combination truck load orders. The company believes the objective has been achieved: 96 per cent of all orders now are being shipped on schedule.

Accelerated Drum Demand

This is due primarily to a two-way improvement in stock availability, explained Robert O. Cavender, warehouse manager. "We've made all stock readily accessible with automated centralized storage, and also tightened inventory control—optimizing the quantity in storage," he said.

What started Union Carbide on this project was an accelerated demand for chemicals in drums, from the corporation's complex of producing plants at South Charleston and nearby Institute, West Virginia. Drums from at least 10 different filling locations are now consolidated at the cen-

Continued on Page 4



UNION CARBIDE CORPORATION'S Nuclear Division has been awarded a certificate of appreciation from the National Aeronautic Space Agency for the firm's participation in the successful Apollo 11 mission. Y-12 Plant Superintendent J. M. Case is seen with the award with P. E. Wilkinson, left, and G. B. Lockhart, Apollo project coordinators for work performed by Nuclear Division installations. Standing are other members of the project's office staff; left to right, C. L. Matthews, L. S. Hawk, E. B. Lockhart, W. E. Wampler, F. D. Mundt and H. S. Corey.

Picking Up Stranger Not Advised By AAA

The American Automobile Association in Arizona reported recently that out of 100 hitchhikers stopped for investigation, 84 had criminal records, 12 others were either juvenile runaways or AWOL servicemen, while only four had clear records.

Picking up a hitchhiker could be the most dangerous thing you could do . . .

Radiation Warning System Test Set Next Wednesday

The Radiation Monitor System Siren Test in Y-12 will be changed, effective this month.

Instead of the weekly low voltage siren test which has been made here, a high voltage test on all system sirens will be made at 9 a.m. next Wednesday, December 10 . . . and will continue thereafter on a monthly basis. The test is being directed by the Plant Shift Superintendent's Office.

At 8:30 a.m. next Wednesday, a voice announcement on the plant-wide public address system will be made. It is as follows:

"Attention, this is the Plant Shift Superintendent, may I have your attention. Thirty minutes from now, a approximately 9 a.m., there will be a siren test at full power on all sirens in Y-12 associated with radiation monitor systems. The sirens will sound for a period of 15 seconds at full power. This will be a siren test only. You will stay at your work station during the test. Repeat, you will stay at your work station during the test. Another announcement will be made in about 30 minutes at the time of the test."

The text of the second part of the announcement, which will follow at 9 a.m., just prior to the activation of the sirens, is as follows:

"Attention, may I have your attention. This is a message from the Plant Shift Superintendent announcing a routine siren test on all radiation monitor systems in Y-12. About one minute from now, all radiation evacuation sirens will sound at full volume for

a period of 15 sections as a test sounding only. You will remain at your work station. Repeat, you will remain at your work station during this siren test period. Should the sirens continue to sound beyond the 15-second test period, it will be necessary for you to evacuate your area and go to an assembly station located outside.

"The siren test will start following a 10-second countdown which is beginning now . . . counting, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. (15 second siren sounding period.)

"The siren test should now be completed. Any further sounding of the sirens which is unannounced will require the immediate evacuation of all alarmed areas by all personnel.

"This is the end of the test exercise. We thank you for your cooperation."

Radiation monitor systems are currently located in Area 5 buildings 9212, 9215, 9995, 9998, others . . . Area 3, 9202, 9203, 9401-1.

Continued on Page 4



ROY HUDDLESTON, RIGHT, Chemical Engineering Development, is congratulated by Harvey T. Kite, on being notified of his application for a patent, in the name of the U. S. Government. Huddleston's development 'Improved Shock Pressure Transducer' is his latest patent application efforts.

SAFETY SCOREBOARD

The Y-12 Plant Has
Operated
75 Days Or
2,615,000 Man-Hours
(Unofficial Estimate)
Through November 30
Without A Disabling Injury
SAFETY AT HOME,
AT WORK, AT PLAY

The Bulletin

Published Weekly For The
Y-12 Employees Of
UNION CARBIDE
CORPORATION



NUCLEAR DIVISION

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Industrial
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Association

American Association Industrial Editors

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Robinette Rites Are Held Monday

Deepest sympathy is extended the family of Charles F. Robinette, Buildings, Grounds and Maintenance Shops. Mr. Robinette died in a Knoxville hospital Saturday, November 22, after a short illness with cancer.



Robinette

He was born and grew up in the Wheat Community (where K-25 now sits). After being forced to move from the area during the purchase of government property here, he moved to Kingston and bought a large farm where he raised cattle and grew tobacco. He was living there at Route 3 at the time of his death.

He came to work in Y-12 August 23, 1952 after working with Maxon Construction Company, and briefly with Roane Anderson.

Survivors include his wife, Mrs. Elizabeth Godsey Robinette; sisters, Mrs. Grace Hatmaker, Knoxville; Mrs. Beatrice Lipford, Mississippi; Mrs. Bessie Feldman, Indiana; Mrs. Monnie Hall, also in Indiana; brothers, Edgar Robinette, also of Kingston; and Jay W. Robinette, Indianapolis, Indiana.

Funeral services were held Monday, at Martin Funeral Home. Interment followed in the Wheat Cemetery.

Mystery Film Is Offered Sunday!

For those who have been waiting for a good old-fashioned murder mystery, "The Spiral Staircase" will surely be your cup of tea. This is the selection of the AAUW Film series, to be shown at 8 p.m., Sunday, December 7, at the Robertsville Junior High School Auditorium.

An outstanding cast, including Ethel Barrymore, Dorothy McGuire, and George Brent star in this mystery of murderous obsessions which take place in a small community of the early 1900's.

After a series of murders have been committed, with the victims all handicapped, the bedridden Barrymore is convinced her mute servant, played by Dorothy McGuire, is next. Suspects are many and the suspense unbearable, so be prepared for a tense, spine-tingling, chair-gripping evening when you see "The Spiral Staircase."

THE FOUR B'S

The Beatles have proved one thing at least—the younger generation DOES appreciate long-hair music.



Mr. & Mrs. Thomas Hugh Stevens



Mrs. C. Edward Tilley

Society For Quality Control Meeting Set

The Tennessee Section of the American Society for Quality Control will meet tomorrow, Thursday, December 4. The meeting is planned at the Crest Room, University Center, at the University of Tennessee.

Dinner will be served at 7 p.m. (\$3 per person for a strip sirloin steak.)

Paul E. Wilkinson, technical director of the Apollo program in Y-12 will speak on the Apollo Lunar Sample Return Container program Highlights.

Members in the Knoxville area will be contacted by telephone for reservations. Non-members may make their reservations by calling Stephen Bleier, Knoxville, at telephone 687-2578; or Robert Lucke, Oak Ridge 482-2698.

Plan to attend the ASQC meeting tomorrow, and bring a guest.

Be alert, don't get hurt.



STEVENS — SINGLETON

Miss Nancy Singleton and Thomas Hugh Stevens were married at noon, Saturday, November 1, at Black Oak Baptist Church.

The bride is the daughter of Mr. and Mrs. William Singleton, Clinton. The groom is the son of Mr. and Mrs. Dewey Stevens, Knoxville. The father of the bride is with Oak Ridge National Laboratory's Plant Protection Division, and her mother is with the Biology Division here in Y-12. The father of the groom is in Utilities Administration.

Given in marriage by her father, the bride wore a day-length dress of white crepe and alencon lace. It featured a cowl collar and long sleeves. Her three-tier shoulder length veil of silk illusion was held by a headband of flowers, petals and seed pearls. She carried a white Bible topped with a cascade of white orchids and white feathered mums.

Miss Sylvia Stevens, sister of the groom, was maid-of-honor. Mrs. Harold Singleton, sister-in-law of the bride was bridesmaid. They wore dress of blue karote designed with empire lines and leg-of-mutton sleeves trimmed with venice lace.

Charles Ingle of Knoxville was best man. Ushers were Harold Singleton, brother of the bride, and Steve Payne, cousin of the groom.

A reception given by the bride's parents, was held at the church following the rites.

The couple is at home at Fort Walton Beach, Florida.

TILLEY—GREGORY

Miss Melinda Gregory and C. Edward Tilley Jr., were married Saturday, October 11, at First Presbyterian Church, Oak Ridge.

The bride is the daughter of Mr. and Mrs. James W. Gregory, 330 East Fairview Road, Oak Ridge; and the groom is the son of Mr. and Mrs. Clarence E. Tilley Sr., 103 Victoria Road, Oak Ridge. Mr. Tilley Sr. is employed in Y-12's Assembly Division.

Mrs. Tilley's attendants were her sister Miss Priscilla Gregory, Carrabelle, Florida, maid of honor; Teresa Ray, Oak Ridge; and Libby Green, Murfreesboro, Tennessee.

Timothy Tilley, brother of the groom, was best man; and ushers were Edward Wilson, Maily Melton, and Michael Gregory, brother of the bride.

The bride is a graduate of Oak Ridge High school and attended The University of Tennessee. She is employed in Y-12's Data Processing Department. The groom attended East Tennessee State University, Johnson City, and is in Y-12's Alpha Five Dispatching.

A reception honored the couple at the church immediately after the rites.

After an Atlanta honeymoon, the couple is living at 136 Wadell Circle, Oak Ridge.

Anomalous Water? Is Physics Seminar Topic

Friday's Physics Division seminar is announced as "Anomalous Water?" to be conducted by E. H. Taylor, of the Chemistry Division. It is set for Friday, December 5, at 3:15 p.m. in the East Auditorium of ORNL's 4500-N building.

Unlimited Energy In Water

By Glenn T. Seaborg

For some time now one of man's greatest dreams has been for an energy source as inexpen-



Seaborg

sive and abundant as the water in oceans.

That wish may be fulfilled by research sponsored by the Atomic Energy Commission on the controlled thermonuclear reaction, or more simply "controlled fusion." Basically the fusion process is the reverse of the fission reaction that nuclear power plants are using to generate electricity today. Fission involves splitting atoms of heavy elements, like uranium, into lighter ones with the release of energy in the form of heat. Fusion combines atoms of light elements, like hydrogen, into heavier ones while also emitting energy in the form of heat.

A major advantage of fusion is the great amount of available raw materials. Instead of requiring uranium, which is in somewhat limited supply, the fusion process uses a heavy form of hydrogen, called deuterium, that is present in all water. In fact, every gallon of water contains enough deuterium to produce energy equivalent to 300 gallons of gasoline.

While no one has yet achieved a self-sustaining thermonuclear reaction, neither have any unsurmountable obstacles been found. I am confident we will eventually succeed in controlling the fusion process, despite the enormous technical demands. When we do, it will be one of man's greatest scientific and engineering triumphs.

An observable thermonuclear reaction would occur only at incredibly high temperatures, something like 100 million degrees; that's several times the temperature of the sun's interior. The deuterium would be in the form of an ionized gas known as plasma. But as the particles strike the walls of any container, they would be evaporating the container and losing their heat and their usefulness. So we have something like the dilemma of the scientist who invents an acid that will eat through anything, but doesn't know what to put it in.

We think the most promising solution to this problem lies in the fields of magnetism, so we are developing "magnetic bottles" to hold the plasma for the amounts of time necessary to extract the energy from the reaction.

Achievement of a sustained fusion reaction is still some time away. Whenever it does occur, man will have developed an economical source that could supply the world's energy requirements for billions of years.

Pollution Subject For Special Seminar

A special Oak Ridge National Laboratory seminar is scheduled for next Wednesday, December 10. Lawrence R. Hafstad, Committee on Undersea Warfare, National Academy of Sciences, Washington, D.C., and recently retired vice president in charge of research of General Motors Corporation, will speak on "Pollution of Automotive Power Plants."

The special seminar is set at 3 p.m. next Wednesday in the Central Auditorium of ORNL's 4500-N building.



Five more Y-12ers were slightly unintentionally recently in this column. Regrets and congratulations to them . . . plus others celebrating important birthdays with Union Carbide Corporation.

25 YEARS

J. P. Wheeler, Beta Two Forming, November 19.

Lewis E. Selvidge, Process Maintenance, November 20.

Ovelia W. Goad, Chemical Services, November 20.

Roy E. Hale, Timekeeping Department, November 21.

Hillman N. Wright, General Machine Shop, November 22.

Willie T. Cole, Building Services Department, December 4.

Grover H. Herrell, Receiving Department, December 4.

Clifford R. Stiles, Special Services, December 6.

Allen B. Townsend, Metallurgical Development, December 7.

George R. Peterson, Chemical Engineering Development, December 7.

Sarah V. Swanner, Data Processing, December 9.

15 YEARS

Harold L. Goldston, Quality Assurance, December 3.

Ernest D. Collins, Dispatching Department, December 3.

Jospeh D. Collins, Alpha Five East Shop, December 3.

Ernest D. Freels, Dimensional Inspection, December 3.

Charles E. Foster, Physical Testing, December 3.

William C. Smith, H-2 and F-Area Shops, December 5.

Ben M. Rutherford, Physical Testing, December 6.

Robert E. Symons, Research Services, December 6.

Eddie L. Evans, Electrical Engineering, December 6.

James G. O'Kain, Electrical Engineering, December 6.

Merle R. Emery, Dispatching Department, December 6.

Joe H. Hamilton, Production Analysis, December 6.

Ervin R. Mantooth, Process Maintenance, December 6.

Laura H. Raines, Technical Publications, December 6.

John S. Wilson, Utilities Administration, December 8.

10 YEARS

Robert B. Johnston, General Field Shops, December 7.

Victor Allen, Tool Engineering, December 7.

Albert T. Gladson, 9766 Machine Shop, December 7.

Helen S. Stepp, Production Assay, December 7.

MAIL EARLY WITH
CHRISTMAS STAMPS



USE ZIP CODES

USE
CHRISTMAS SEALS



FIGHT EMPHYSEMA, TUBERCULOSIS
& AIR POLLUTION



WHERE THE DEER AND the antelope play is where Harvey Coppock, Mechanical Engineering, spent a rather profitable vacation recently. He is seen in the top photo with an antelope he bagged and in the lower photo with his son-in-law Jesse Broadstock and Guide Buck Snyder with some deer they picked off on the plains of Wyoming. 'Beautiful country,' says Coppock. They hunted on the Wyoming-Montana line. The only snow they saw was near Mount Rushmore, South Dakota.

1968 Ugly Year On Nation's Roads

1968 was an ugly year for Americans. Tragedy of spectacular magnitude became a frequent front page occurrence. But a quieter national calamity took its dreadful toll on all the days before, during and after the Tet offensive in Vietnam, the riots, the assassinations.

It was "quiet" only because it was not concentrated in a single place at a single time. There was no focus to put this misery on the front pages. To the families and friends of 55,300 men, women and children killed in auto accidents, however, it was the ultimate calamity. To the 4,400,000 victims of injury, it was hard core agony. The economic loss, about 13.5 billion dollars, was an appalling waste.

This view of 1968 is contained in the annual booklet of highway accident statistics from The Travelers Insurance Companies. Statistics in the booklet were compiled from records of motor vehicle departments throughout the country.

The 1968 highway toll followed a year that saw a leveling off in the number of highway deaths and injuries. In 1967 approximately 53,000 lives were lost in motor vehicle mishaps—4,200,000 persons were injured.

Why the increase? Was it because Americans were lulled by

Mook And Brewer Lead Table Tennis

All team members in the Table Tennis Leagues, both of them, now have records to sport . . . some good, some not so good.

In the X League last week Herb Mook downed Bill Foutz for two . . . while Roy Huddleston conquered Foutz and Subbu Raman for two.

Player	W	L
Herb Mook, X-10	10	2
Roy Huddleston, Y-12	7	2
Loyd Wyatt, Y-12	6	3
Jerry Keyes, Y-12	6	3
Bill Foutz, X-10	6	6
Subbu Raman, X-10	4	8
Bill Motley, Y-12	0	6
Jerry Goldstein, X-10	0	9

In the Y League, Gordon Brewer edged into first place with a three-point win over M. G. Zeigler. Ed Gambill won three from Art Weinberger and Ram Uppuluri . . . while Bill Bardill downed Ken Toth for the full count.

Zeigler also downed Uppuluri for all three of them.

Player	W	L
Gordon Brewer, Y-12	11	1
Ed Gambill, Y-12	10	2
Art Weinberger, X-10	9	3
Bill Bardill, X-10	8	4
Ram Uppuluri, X-10	3	6
M. G. Zeigler, X-10	4	8
Ken Toth, X-10	0	12
Bob Smith, Y-12	0	9

the "improvement" of the preceding year?

There are, perhaps, as many reasons as there are people to voice opinions.

Whatever the reasons, the tragedy remains. More than 55,300 persons were killed and 4,400,000 injured.

Mr. Driver, it's up to you to help make 1969 beautiful!

Recreation



Sunday, December 7

SKEET TOURNAMENT: 1 p.m. Oak Ridge Sportsmen's Association range.

Monday, December 8

BOWLING: C League, 5:45 p.m., Ark Lanes.

BASKETBALL: 6:30, 7:30, 8:30 p.m. Oak Ridge High School Gymnasium. Front Court: Quarks vs. Spoilers; Meat Loafs vs. Hawks; Aggressors vs. Buccaneers. Back Court: Nads vs. Road Runners; Mod Squad vs. Rolling Bones; Beta 2 Miners vs. Bombers.

TABLE TENNIS: 7 p.m. Wildcat's Den.

Tuesday, December 9

PHYSICAL FITNESS (For Men): 7-9 p.m., Oak Ridge High School Gym.

BOWLING: Carbide Starlite League, 8:30 p.m., Starlite Lanes, Knoxville.

CAMERA CLUB: 8 p.m. Cheyenne Hall.

Wednesday, December 10

22 CALIBRE RIFLE LEAGUE: 7 p.m. Oak Ridge Sportsmen's Association Indoor Range.

BASKETBALL: 6:30, 7:30, 8:30 p.m. Oak Ridge High School Gymnasium. Front Court: Isotopes vs. Nads; Rolling Bones vs. CC 69ers; Ail Stars vs. K-25 Trojans. Back Court: Development All Stars vs. Y-12 Rats; GBU's vs. Butterballs; Meat Loafs vs. Road Runners.

BOWLING: Mixed League, 8 p.m. Ark Lanes.

Thursday, December 11

BOWLING: Classic League, 5:45 p.m. Ark Lanes.

VOLLEYBALL: 6:30, 7:45, 9 p.m. Oak Ridge High School Gymnasium. Court A: The Pack vs. Ecobums; Blacksmiths vs. Boomerangs; K-25 Gashouse Gang vs. Set-Ups. Court B: K-25 Hawks vs. Bombers; Beavers vs. Eagles; ORNL Old Men vs. Y-12 Old Men.

E Hawk Rolls High C Scores

The Rounders, determined to keep atop C Bowling, grabbed three important points last week



Hawk

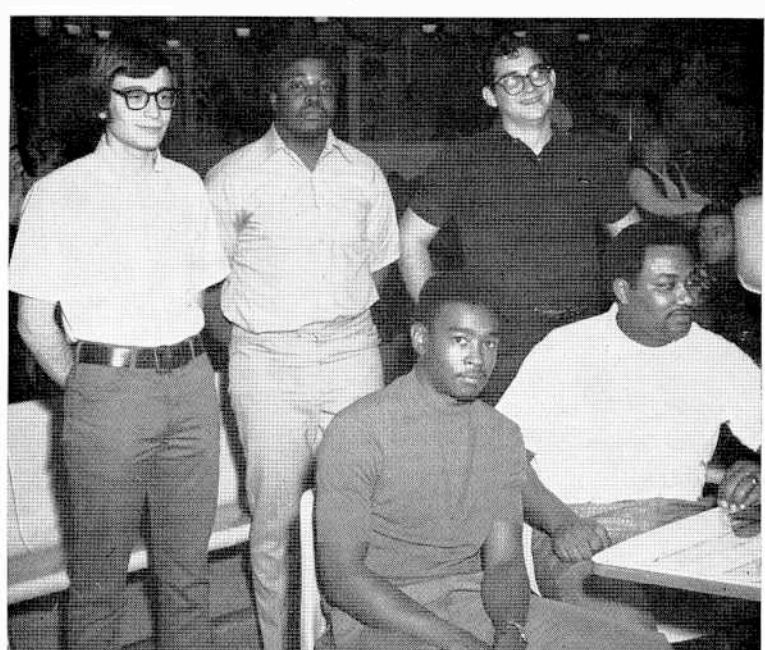
Elmer Hawk.

Also taking three were the Rollmasters by the Go Go Gophers, the Fireballs by the HiLifers and the Big Five by the Royal Flush.

Hawk's single of 244 scratch, 263 handicap was high, naturally. Jim Hummer, Badgers, bested the field with a 625 scratch series. Hawk returned to honors with a 668 handicap series.

The Sunflowers were superior in all departments, team-wise. Their singles of 946 scratch, 1057 handicap were high, and their series score of 2597 scratch, 3030 was high also.

Team	W	L
Rounders	35	13
HiLifers	31	17
Rollmasters	29	19
Badgers	28	20
Instrument Engineers	26	22
Parbusters	25	23
Sunflowers	25	23
Fireballs	24	24
Anodes	21	27
Big Five	21	27
Go Go Gophers	16	32
Royal Flush	7	41



THE JAGUARS AND THE HI-JACKERS pose big threats in the Carbide Starlite League bowling each Tuesday at the Starlite Bowling Lanes, Knoxville. The new league has eight teams to spark the competition. In the top photo are the Jaguars, from left, Bob Cerrato, Quinton Jefferson, Clarence Forney, Bob Armonstron and John Jordan, captain. In the lower snap are the Hi-Jackers, seated, Earl Severs, and Coy Harrell, captain. Standing are Clon Felker, Walter Sherrod, Howard Crane and Charley Gaylor.

Hi-Jackers Edge Into One-Point Lead As Starlite Bowlers See Fast Pacing

The Hi-Jackers hit their stride last week in the Carbide Starlite Bowling League, taking two from the Woodpeckers. Walt Sherrod, on the H-J team, rolled a 223 scratch game. Jim Woodard, Woodpeckers, rolled series of 555 scratch, 651 handicap. Lee Jackson, Wildcats, zeroed in the league with a 254 handicap single.

The Splitters lost two to the Dynapaths and the Has Beens won a forfeit over the Jaguars.

The Hi-Jackers hit high in scratch counting . . . singles of

882, series of 2484 . . . while the Thunderbirds took handicap honors . . . singles of 1044, series of 2889.

League standings follow:

Team	W	L
Hi-Jackers	15	3
Woodpeckers	14	4
Splitters	11	7
Has Beens	9	9
Dynapaths	8	10
Thunderbirds	7	11
Wildcats	5	13
Jaguars	3	15

Big Basketball League Hits Maple Floor Here

A 21-team Basketball League began Monday at the Oak Ridge High School Gymnasium. Play will take place Mondays and Wednesday, at 6:30, 7:30 and 8:30 p.m. on two different courts.

An attempt will be made in early March to shorten the seasons if gyms are available. As presently set the schedule extends through April 27 due to the large number of entries.

Coverage of the games will begin, of course, in next week's Bulletin.

SEAT BELTS, YES!

Seat belts **do** save lives. Studies of actual auto crashes by investigators at Cornell University prove it. The National Safety Council estimates that at least 5,000 lives a year would be saved if every motorist used a seat belt every time he got into a car.

B Shift Names Big Turkey Shoot Winners

B Shift reports a fine, clear autumn day for their turkey shoot Saturday, November 22.

Winners on the spin board were J. C. Franklin, E. E. Mauney, M. E. Duke, I. H. Bell, D. N. Smith, J. M. Armitage, R. L. McGinnis, J. W. Emch, K. H. McCormick, Joe Smyrl and John Bynum.

On the firing line it was J. Potter, T. Ramsey, Tom Hillard, E. Rogers, J. Wade, T. Hendrix, W. Less, J. Morgan, C. Slaton, L. Rickard . . . and the following men fired for two: H. Baker, M. Rickard, D. Watson, D. Turner and T. Gallups.

B Shifters says watch the Bulletin boards . . . there's another one a'coming' December 20. Something different, this time!



NO HELL'S ANGELS, these two! They are part of Seamon's Chimps, who will entertain Carbide kids at their parties December 23. The chimps will be seen at 10:30 a.m., 2:30 and 6:30 p.m. parties. Bears will be featured at the other parties.

Ticket Applications Are Flooding Recreation; Your Kids' Names In???

Ticket applications are flowing like wine through these parts! Is yours in yet?

Better not disappoint that youngster . . . get him a choice this year. Does he like bears or chimps? The Naughton's bears will perform at the 8:30 a.m., 12:30 and 4:30 p.m. parties . . . while the Seamon's Chimps, seen above, will delight young and old alike at the 10:30 a.m., 2:30 and 6:30 p.m. parties.

Santa Claus will make his appearance, to be sure. There will be the usual array of cartoons, singing and merry-making in general typical of this season. The High School auditorium is limited by fire regulations as to the number it can take . . . so there are limited numbers of tickets to each performance. And the tickets go

on a first-come, first-served basis.

As stated, they are flooding the Recreation office under. Recreation says they will begin mailing the tickets out sometime next week.

You can use the plant mail, if you like . . . just address your application to Recreation, 9711-5.

Please fill out the application completely. Every once in a while one comes in without a name on it, without an address, without a choice of times, etc.

Tickets will be mailed to the employee's home.

Remember, there are six parties . . . three with bears, three with chimpanzees. Decide which you want your children to see . . . and apply now!

Alert today—alive tomorrow.

Italian Company In Steel Agreement

One of the major stainless steel producers in Italy, Industria Lamiere Speciali Soc. Az. Carlo Viola, a member of Societa Metallurgica Italiana, has signed a contract with Union Carbide to use the corporation's patented process for making stainless steel. The process involves refining of stainless steel heats outside the traditional arc furnace. Initial production using the process is scheduled for early 1970. The process is expected to enable the Italian company to double its output of stainless steel in 1971.

In making the announcement in Italy, a company officer said, "ILSSA VIOLA has realized for some time that the role of the arc furnace should be confined to melting and that refining could best be accomplished by a duplex process such as the argon-oxygen technique patented by Union Carbide Corporation." This method permits doubling production with significantly lower capital investment than the investment that would be required to double arc furnace capacity. The process will produce lower-cost stainless by enabling the melter to use the lowest cost chromium-containing charge materials available and will increase the yield of metallics. Two additional benefits will accrue: bubbling with argon will increase steel cleanliness by lowering the concentration of gases and nonmetallic inclusions, and the cost of operating the argon-oxygen unit will be lower than the cost of conventional refining in the arc furnace.

After a thorough investigation of all processes for stainless production, ILSSA chose Union Carbide's argon - oxygen process. Chief reasons for this decision were: capital costs are low; the process will accept any analysis of molten stainless steel; and the process has been in commercial operations since 1968.



UNION CARBIDE CORPORATION

NUCLEAR DIVISION

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BULK RATE
U.S. Postage
PAID
Oak Ridge, Tenn.
Permit No. 71

Computer-Guided Warehouse

Continued from Page 1

tral warehouse. Formerly, it was necessary to assemble shipments from the various drumming locations. Delays and separate pick-up charges were a problem, and transportation equipment was poorly utilized.

The problems have been solved with the new automated warehouse, through the joint planning efforts of Union Carbide and the Industrial Systems Division of Aerojet-General Corporation. A big problem that is minimized is scarcity of land in the area. By storing drums 15-high in gravity lanes instead of using conventional four-high palletized storage, Union Carbide drastically cut floor-space requirements. The reduction was from 2 square feet to 1/2 square foot per drum.

Accuracy — Speed

Most impressive of all, however, is the accuracy and speed of customer service. The New York office of Union Carbide estimates that a field office can take a rush order, transmit it via

teletype and computer to the South Charleston warehouse, and one hour later the drums will be out on the warehouse loading platform!

Basically, this timing is achieved by a small, low-cost computer operating the drum handling system at the warehouse, and a large central computer that takes care of forecasting, stock reservations and inventory control functions, updating of order quantities and re-order points, determination of re-order requirements, keeping track of stock locations and available space, and planning picking schedules for vehicle loads. Just to make sure customers get what they want when they want it, the computerized handling of orders is backed up by personal monitoring at key locations along the route from field to warehouse.

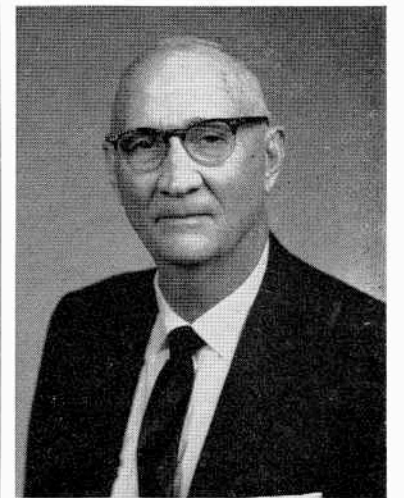
Union Carbide points out that the automated warehouse is just one part of a total system of modern inventory control and production planning.

Plan Aging Process By Keeping Active!!

Everybody is getting older. But one consolation. We are all aging at the same speed. Changes take place which may make us tire more quickly as we get older, but the basic machinery continues to operate the same way. It was made for work and begins to deteriorate without it. So this country ends up with a senior population which enjoys increasing financial security but suffers much too early from heart attacks and strokes. So you need more exercise? Do you know what to do? If you have doubts about your physical ability, consult with your doctor. Tell him that you want to live longer and let him prescribe some activity that will keep you busy. Call your Y, or get in on the physical fitness program sponsored by Union Carbide. But don't fall for special diets and exercise gimmicks that have become so common. Stay fit with a regular fitness program.

Two Y-12ers Are November Retirees

6-14622



Richard C. Herrell

Two well known old-time Y-12ers retired last week . . . Richard C. Herrell and Charles F. Piper.

Richard C. Herrell

Beta Two Forming
Born: Kingston, Tennessee
Csd: February 1, 1951
Home: Route 3,
Powell

* * *

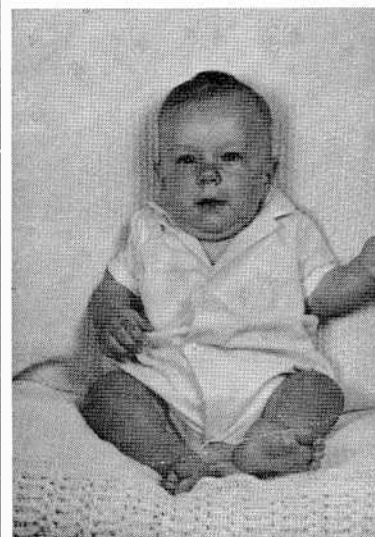
Charles F. Piper

Production Analysis
Born: Spencer, North Carolina
Csd: January 10, 1944
Home: 120 Georgia Avenue
Oak Ridge

Radiation Warning

Continued from Page 1
others; and in buildings 9201-4, 9201-5, 9204-2, 9204-3, 9204-4, 9206, 9213, 9401-2, 9720-5, 9720-9, 10, -11, 81-22, 9720-18.

The 9 a.m. high voltage siren tests will be repeated January 14, February 18, March 25, April 29 . . . as well as next Wednesday, December 10.



STEVEN DOUGLAS White was born April 10 . . . the son of Mr. and Mrs. Doyle G. White, Route 2, Oliver Springs. He is 18 weeks old in this August portrait. The proud papa is in Y-12's H-2 and F-Area Shops.

Application for Tickets to Carbide Christmas Parties

FOR CHILDREN OF Y-12 EMPLOYEES
(Ages 2-10)

TUESDAY, DECEMBER 23

Employee's Name _____ Badge No. _____

Home Address _____

(PLEASE PRINT—STREET ADDRESS, RFD, CITY, & ZIP CODE)

Number of Tickets Needed for Children _____

Number of Tickets Needed for Parents _____

— CHECK TIMES PREFERRED —

TUESDAY, December 23 ONLY 8:30 A.M. _____ 10:30 A.M. _____

12:30 P.M. _____ 2:30 P.M. _____ 4:30 P.M. _____ 6:30 P.M. _____

Please check first, second, third, fourth, fifth, and sixth choice (write in space "1", "2", "3", "4", "5", or "6") as only a limited number of tickets can and will be issued for each party. If six choices are not listed and tickets are not available for the time or times you desire, tickets sent to you will be nearest the time requested. Return this form, properly filled in, IMMEDIATELY, to the Y-12 Recreation Office, Building 9711-5, not later than December 17. The required number of tickets will then be mailed to parents at their HOME ADDRESS.